



## Meter Replacement Program, Automatic Meter Reading Technology, and Advanced Metering Infrastructure System

### **Most Requested Information**

For more than a decade, Tucson Water (TW) has been replacing older model meters with a new generation of meters that can be read remotely through low-energy wireless communications equipment. The following provides information about this technology.

#### **What type of meter is being installed?**

TW is installing Automatic Meter Reading (AMR) meters that can transmit usage data through a wireless radio frequency (RF) signal. These signals are received through mobile collectors installed in vehicles for drive-by gathering of meter reads or via handheld devices by TW's meter readers for walk-by collection.

#### **How many AMR meters has TW installed?**

Through April 2013, TW had installed about 70,000 AMR meters. This represents about 30% of the approximately 230,000 meters in TW's water systems. TW began piloting AMR meters in 2002 and is now installing them at a rate of about 20,000 per year to replace conventional meters at the end of their service life. We expect that all of our customers will have AMR meters by 2023.

#### **Why is TW installing AMR meters?**

AMR meters offer an accurate, affordable way to measure water usage. While our traditional meters must be read and inspected visually each month, usage data from AMR meters can be downloaded by us automatically through the mobile collector or handheld units.

AMR meters also have lower meter reading costs than conventional meters and also make it easy to gather usage data more frequently than once a month. Aggregated hourly readings from AMR meters can be used to track water usage in all areas of the city. TW is considering offering customers the opportunity to view their usage data on a daily or even hourly basis.

### **How do AMR meters work?**

Like traditional manually-read meters, AMR meters measure the amount of water flowing through the meter at a customer's location. The meters periodically communicate these readings through a low-energy wireless signal. In some parts of town, these signals are gathered through mobile collectors inside vehicles and handheld units carried by TW's meter readers. In either case, the readings are forwarded to TW's computer systems and used to bill customers.

### **Is my meter reading data secure?**

Yes. The AMR meter provides one-way communication of the same data as a traditional meter, and is not linked with devices within the home, such as appliances. The water usage information transmitted wirelessly from your meter to TW's collection devices is secure. The meter transmissions are encrypted and the network infrastructure and data centers have been specially adapted. In addition, TW is continually looking at ways to implement comprehensive cyber-security plans, security infrastructure, and practice to protect against evolving threats.

### **Is there any reason to be concerned about exposure to RF signals from AMR meters?**

The brief wireless signals from TW's AMR meters have a much lower power density than emissions from Wi-Fi, cellular phones or other common RF sources. The meters operate at energy levels that are less than 1/100 of 1% of the RF exposure limit specified by the Federal Communications Commission (FCC).

### **How can I tell if an AMR meter is installed at my home or business?**

TW's AMR meters have an Encoder/Receiver/Transmitter (ERT) that is either integral to the meter or attached with visible wiring. ***See picture on next page.***



### **Does TW seek customers' permission before installing AMR meters?**

Tucson Water policy requires the installation of AMR/AMI capable meters for all new construction and replacement of older meters. Tucson Water does not currently offer an Opt-Out policy at this time, but will review the need for one as part of the annual rate-making process. If you have any questions or concerns about AMR/AMI meters, please contact a Customer Service Representative at (520) 791-3242 or send an e-mail to [TWWWebAcct1@tucsonaz.gov](mailto:TWWWebAcct1@tucsonaz.gov).

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